

	Type	L #	Hits	Search Text	DBs
1	BRS	L1	58	(fourier and DNA) and neural	USPAT; EPO; JPO; DERWE NT; IBM
2	BRS	L2	394	fourier and DNA and (pattern or match\$)	TDB USPAT; EPO; JPO; DERWE NT; IBM
3	BRS	L3	59	fourier and DNA and (pattern near2 (recogni\$6 or match\$))	TDB USPAT; EPO; JPO; DERWE NT; IBM

TDB

	Type	L #	Hits	Search Text	DBs
1	BRS	L1	179	DNA adj1 sequence and Fourier	USPAT; EPO; JPO; DERWE NT; IBM
2	BRS	L2	138	L1 and (pattern or match\$4)	USPAT; EPO; JPO; DERWE NT; IBM
3	BRS	L3	46	DNA adj1 sequence and (Fourier same (match\$4 or pattern))	USPAT; EPO; JPO; DERWE NT; IBM
4	IS&R	L4	8	((("5064754") or ("5221518") or ("5073858")).PN;	USPAT; EPO; JPO; DERWE NT; IBM
5	BRS	L5	596	(wavelet or subband) and recognition	USPAT; EPO; JPO; DERWE NT; IBM

IDB

=> d his

(FILE 'HOME' ENTERED AT 14:36:26 ON 20 APR 2001)

FILE 'BIOSIS, INSPEC, PATOSWO, SCISEARCH' ENTERED AT 14:39:36 ON 20 APR  
2001

L1

9 S FOURIER AND DNA AND SEQUENCE AND PATTERN

NR

L1 ANSWER 6 OF 9 INSPEC COPYRIGHT 2001 IEE  
AN 1989:3298851 INSPEC DN A89020390; B89010623; C89015807  
TI **DNA sequence analysis by optical pattern**  
recognition.  
AU ~~Gildner, M.D.~~; Christens-Barry, W.A.; Martin, J.C.; Hawk, J.F. (Dept. of  
Phys., Alabama Univ., Birmingham, AL, USA)  
SO Proceedings of the SPIE - The International Society for Optical  
Engineering (1988) vol.938, p.238-45. 5 refs.  
CODEN: PSISDG ISSN: 0277-786X  
Conference: Digital and Optical Shape Representation and Pattern  
Recognition. Orlando, FL, USA, 4-6 April 1988  
Sponsor(s): SPIE  
DT Conference Article; Journal  
TC Application  
CY United States  
LA English  
AB **DNA sequence** analysis has been demonstrated with  
optical **pattern** recognition techniques. New methods to optically  
study features of the **DNA** molecular code have been developed by  
creating new **DNA sequence** representations. This  
research involves representing **DNA** sequences by characters which  
have been designed so that their Fourier transform properties  
can be used to perform optical searches for nonspecific **sequence**  
features. To aid in the design of these characters, a computer simulation  
of the optical process was developed. Matched spatial filters (MSF) were  
made of important **DNA** features using the new **DNA**  
representations and searches performed on **DNA** sequences. The  
search results were obtained using optical correlation and studied with  
the aid of image processing capabilities on a microcomputer. Topics  
discussed are **DNA** features and organization, character design,  
and optical **pattern** recognition.  
CC A8715H Molecular dynamics, molecular probes, molecular pattern  
recognition; A8715B Structure, configuration, conformation, and active  
sites at the biomolecular level; B6140C Optical information processing;  
C7330 Biology and medicine; C5260B Computer vision and picture processing  
CT BIOLOGY COMPUTING; COMPUTERISED **PATTERN** RECOGNITION;  
COMPUTERISED PICTURE PROCESSING; DIGITAL SIMULATION; **DNA**;  
MOLECULAR BIOPHYSICS; OPTICAL CORRELATION  
ST character representation; matched spatial filters; **DNA sequence**  
**analysis**; optical **pattern** recognition; **DNA** molecular  
code; Fourier transform properties; optical searches;  
**nonspecific sequence features**; computer simulation; optical  
correla